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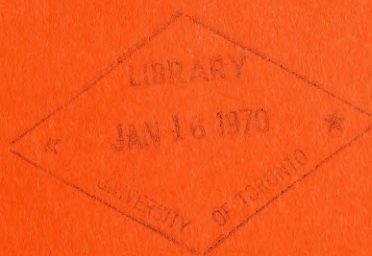
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GEOGRAPHICAL PAPER No. 43

LAND USE OF THE VICTORIA AREA, B.C.

Charles N. Forward



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GEOGRAPHICAL BRANCH



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**Land use
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Department of Energy,
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Price: \$2.50

J. Keith Fraser

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Geographical Branch
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Cartography under the supervision
of Rolande Trevor

The cover design incorporates a portion of a map of
Victoria and part of Esquimalt District, 1861, courtesy of
the Provincial Archives of British Columbia.

La couverture reproduit en partie une carte intitulée
Victoria and part of Esquimalt District, 1861, gracieusement
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Britannique.

Preface

The field research on which the accompanying end-pocket maps are based was conducted in 1960 and 1961 under contract to the Geographical Branch. Various circumstances, including changes in editorial staff and the decision to distribute geographical responsibilities among other branches of the Department, delayed publication of the research until it became apparent that a detailed analysis of land-use patterns would be of little practical value. Nevertheless, the maps were obviously an authoritative record of the use of land at a particular stage in the development of the Victoria area, and as such, they stand as a unique inventory for comparison with future studies. Accordingly, the author revised and shortened the text which he had submitted in 1964. It is presented here as explanatory background to the maps.

This is the last in this series to appear under the imprint of the Geographical Branch. However, *Geographical Papers* will continue to be published under the aegis of the Policy and Planning Branch, Department of Energy, Mines and Resources.

J. Keith Fraser
Acting Director,
Geographical Branch

Préface

Les recherches sur le terrain qui ont servi à la préparation des cartes sous pochette ont été effectuées en 1960 et 1961 en vertu d'un contrat accordé par la Direction de la géographie. Des circonstances diverses, y compris des changements dans le personnel de rédaction et la décision de répartir les responsabilités géographiques dans les autres directions du Ministère, ont retardé la publication des rapports sur la recherche au point où il est devenu évident qu'une analyse détaillée de l'utilisation des sols aurait très peu de valeur pratique. Toutefois, les cartes constituent de toute évidence un dossier précieux sur l'utilisation des sols à une époque particulière du développement de la région de Victoria et, comme tel, on y trouve un inventaire unique qui servira à établir des comparaisons avec des études futures. Conséquemment, l'auteur a révisé et abrégé le texte qu'il avait soumis en 1964. Le texte est ici présenté sous forme d'explication des cartes.

Ce texte est le dernier de cette série à paraître sous l'en-tête «Direction de la géographie». Toutefois, les *Études géographiques* seront désormais publiés sous l'égide de la Direction des politiques et de la planification, ministère de l'Énergie, des Mines et des Ressources.

J. Keith Fraser
Directeur intérimaire
Direction de la géographie

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LAND USE OF THE VICTORIA AREA, B.C.

Charles N. Forward*

Introduction

Land is a precious resource which varies in value and use both spatially and through time. Its location relative to current economic activities may largely determine its value; technological changes such as the commuter's automobile may greatly influence changes in the use to which it is put. With present day urban expansion and the resultant intense competition for the land around cities and along transportation routes, wise planning and firm control of economic expansion are urgently needed to protect the public interest.

The land-use map, which effectively displays spatial relationships, provides a selective inventory of present uses and an invaluable basis for future planning. Like the photograph, however, it is a static tool, unable to portray the changes constantly taking place in a dynamic landscape. It requires as supplement an outline of the origin and past development of the land-use patterns it portrays.

In this study the present land uses were mapped and the historical development of the cultural landscape from the founding of Fort Victoria to the present was traced. Inevitably the steady urban expansion outward from Victoria Harbour is a recurring theme. The study relates existing land-use patterns both to the historical background of the area and to its present economic and social conditions.

The survey region, shown in Figure 1 and in the land-use maps (back pocket), is limited to the area covered by the following four sheets of the National

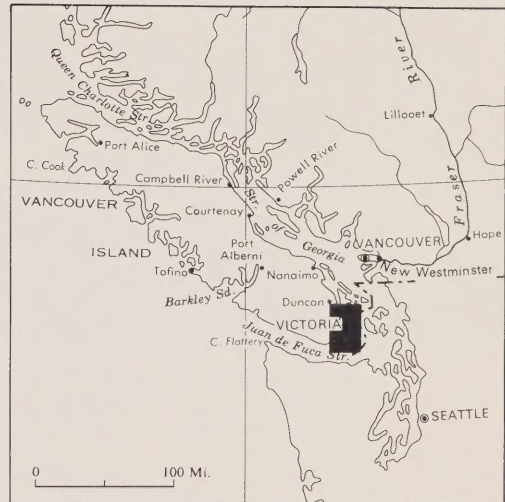


FIGURE 1. Location map.

Topographic Survey System (1:50,000): *Victoria*, west half; *Sidney*, west half; *Shawnigan*, east half; *Sooke*, east half. During the summers of 1960 and 1961 land uses were mapped in the field by the author directly onto aerial photographs, using a modified version of the World Land Use Classification that had been officially adopted by the Geographical Branch.¹ The land-use pattern outlined on the photographs was generalized for reproduction at the scale of 1:50,000.

The physical setting

As the physical setting establishes a background for the investigation of historical development and present

MS originally submitted August 1964.

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FIGURE 2. The mountainous country west of Saanich Inlet rises abruptly to heights approaching 2,000 feet in the rugged, logged-over Malahat Ridge. Bamberton cement plant with its hillside limestone quarry occupies a waterfront site (Photo: *courtesy* British Columbia Government).

land use, this section considers the physical factors of landforms, geology, soils, climate and vegetation.

Landforms

Southeastern Vancouver Island is fundamentally a rugged land fringed by a narrow, discontinuous lowland along the straits of Georgia and Juan de Fuca, its eastern and southern boundaries. This lowland, which comprises approximately all land below the 500-foot contour, is knobby and hummocky with numerous rock outcrops, particularly in the southern part where hills like Mount Douglas (739 feet) and Mount Tolmie (408 feet) rise abruptly above the general level.

The highland character of the central and western part is well illustrated along Finlayson Arm where the

valley walls rise precipitously to more than 1,000 feet above sea level. West of Finlayson Arm elevations reach 2,000 feet within two miles of the coast (Figure 2) and 2,800 feet just beyond Sooke Lake near the western boundary of the study area.

Geology

In the complex structure of the area are sedimentary, metamorphic and intrusive and extrusive igneous rocks that span parts of three geological eras from late Palaeozoic through Mesozoic and Cenozoic. Figure 3 shows the location and extent of the various rock formations.

Numerous small pockets of crystalline limestone appear in association with the volcanic rocks of the

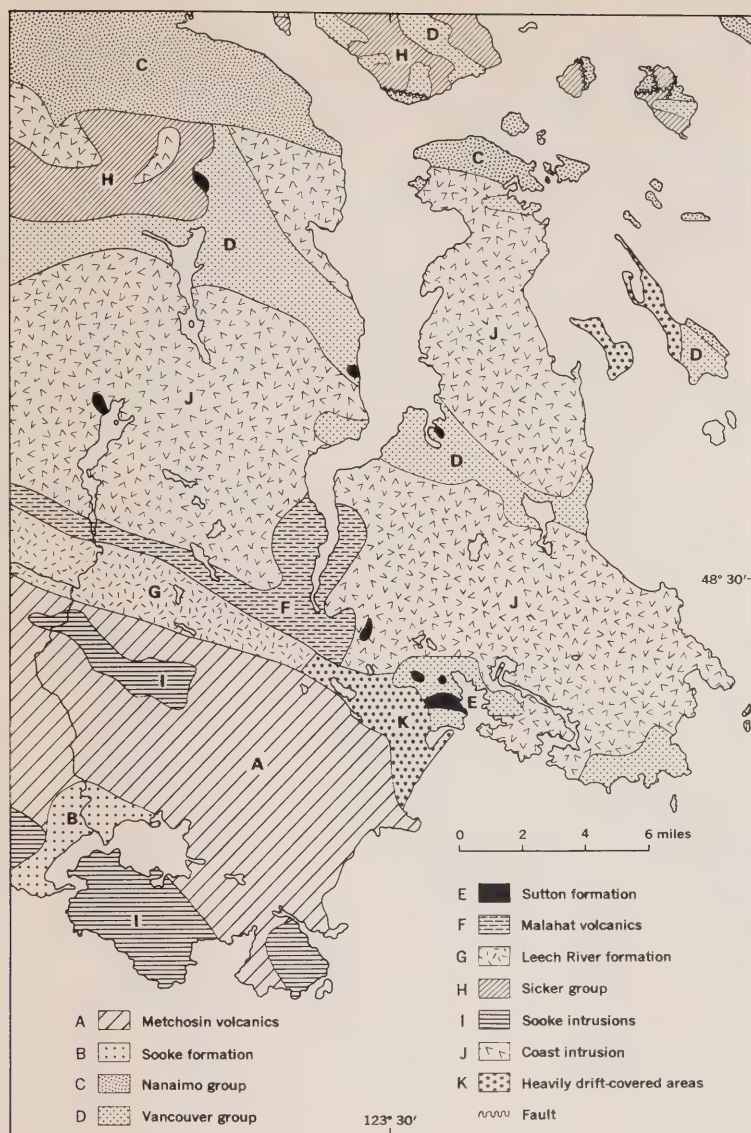


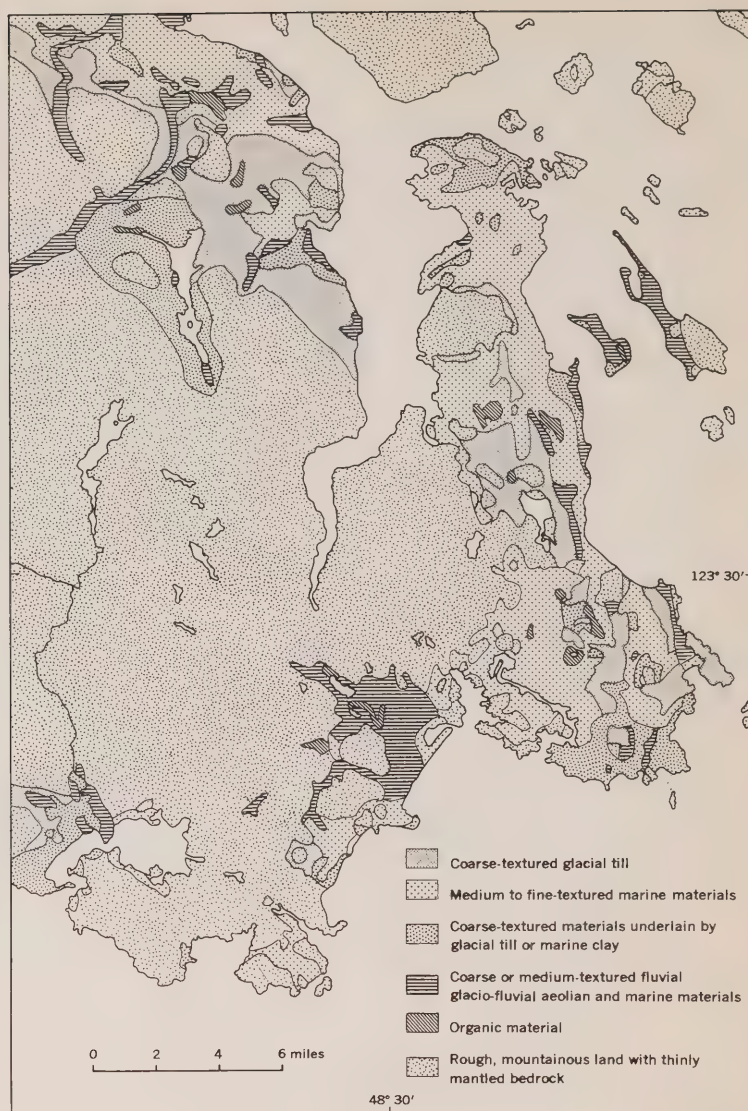
FIGURE 3
Geology of southeast Vancouver Island (compiled from map 1069A, Vancouver-Victoria sheet, Geology; Clapp, C.H., Geology of Victoria and Saanich map-areas, B.C., Geol. Surv. Can., Memoir 36, 1913; Clapp, C.H. and Cooke, H.C., Sooke and Duncan map-areas, Geol. Surv. Can., Memoir 96, 1917).

Vancouver Group, those at Tod Inlet and Bamberton having been used for making lime and cement. The coal-bearing Nanaimo Group was of great economic importance in the establishment and growth of Nanaimo. Outcrops of coal occur on the end of Saanich Peninsula and on some of the Gulf Islands—in fact, Coal Island owes its name to the discovery of outcrops on its southern shore. No mineral deposits have been discovered in the immediate vicinity of Victoria itself.

The influence of rock structure on topography is apparent chiefly along faults and zones of contact. A

pronounced linear valley developed along the Leech River fault is occupied by stretches of several creeks. Another distinct valley near Tod Inlet along the contact between the Vancouver Group and the Coast Intrusions is occupied by Durrance Lake and two small creeks. On Salt Spring Island, the southern face of Mount Tuam, which has a slope of approximately 25 degrees and rises from sea level to 2,000 feet within four-fifths of a mile, is probably a fault-line scarp.² Offshore, the sedimentary structure has given a linear character to many of the islands, such as Domville and Forrest. However, these

FIGURE 4
Surface materials of the
Victoria area (after Day, J.H.,
Farstad, L. and Laird, D.G.).



landscape reflections of variations in the underlying rock structure are exceptional.

Although the major topographic features had been long established as a result of folding, faulting, uplift and erosion, most of the details were etched by Pleistocene glaciation. Valleys, lake basins, inlets, islands and ridges were carved and shaped by glacial scour and the landscape was mantled with varying forms of glacial drift. Evidence of the last two glacial advances is readily observable both in the sculptured rock surfaces and the depositional features. The ice moved from north to south and reached a maximum thickness of 5,000 feet, leaving only the highest summits protruding. The knob-

like profiles of lower summits, such as Mount Newton, Mount Douglas and Mount Tolmie, were rounded and smoothed by the overriding glaciers. Ice deepened the Georgia Depression and the Strait of Juan de Fuca and carved many fiords. Rock-basin lakes and U-shaped and overdeepened valleys are frequent, and large areas of the terrain are covered by glacial drift features. Stratified and unstratified glacial deposits (Figure 4) vary greatly both in form and thickness.

Prior to the last glaciation, while the land was still depressed below its present level, extensive glaciofluvial and marine deposits were laid down. Fine-textured marine silts and clays were deposited widely in the

shallow waters that covered the present lowlands. Stratified drift was deposited to thicknesses of more than 200 feet by meltwater streams. One of these glaciofluvial deposits is located at Cordova Bay where today sand and gravel are extracted on a commercial scale. This mantle was later locally reworked, both by meltwater streams and by the ice of the later advance which produced new forms that still persist little altered by erosion. Remnants of previously more extensive glaciofluvial deposits on Saanich Peninsula, James Island and Sidney Island were sculptured into elongated ridges oriented generally with the direction of ice movement. The structure of James Island is revealed along its southern shore where a 150-foot cliff of stratified drift is surmounted by a thin mantle of till. Tapering ridges of the stratified drift extend southward from Mount Douglas and Mount Tolmie, possibly protected from removal during the last advance by these resistant rock masses.³ Sizeable sand and gravel deposits were laid down at Esquimalt and in the Colwood-Langford area.

Marine clays accumulated in low areas toward the end of the last glaciation and form the present lowland surface material in many places. Abundant meltwaters carved large potholes at several points along some of the river courses and left deltaic deposits of considerable extent. Postglacial uplift has exposed glacial deposits in areas along the coast in which wave erosion has carved steep cliffs such as those which rise sheer 200 feet between Albert Head and Esquimalt Lagoon.

In spite of postglacial uplift, which amounts to approximately 250 feet in the Victoria area, the coastline is still classed as "drowned". It is extremely youthful because the existing land/sea relationship has prevailed for only a few thousand years. Rock exposures along the coast generally show little evidence of wave erosion, even in the form of a wave-cut nip. In fact, glacial grooves and striations, essentially unaltered by wave action, are common surface markings on outcrops exposed to marine attack. Excellent examples of such grooves may be observed on the Victoria waterfront near Clover Point and at Fisgard Lighthouse near Fort Rodd. Unconsolidated materials, on the other hand, have been rapidly eroded and reworked locally into sand banks, spits and bay-mouth bars.

Soils

Soils of the Victoria area are developed chiefly from parent materials resulting from glacial and marine deposition (Figure 5). The upland soils are thinner and more patchy than those of the lowlands because the mantle of till which constitutes the parent material is rather meagre. A total of seven great soil groups are represented in the area and all but two, the Alluvial and Organic, occur extensively.⁴ The classification of soils in

the Victoria region according to their agricultural suitability, which was established as part of the area soil survey, is shown in Figure 6. This has been based on factors which largely determine land capability — texture, depth, moisture-holding capacity, natural fertility, drainage, permeability, topography and stoniness of the soil.

Climate

The climate of the Victoria area is classified as the Mediterranean type with a cool summer phase. It is an equable climate with strong marine influences, characterized by mild, wet winters and cool summers, dry often to the point of drought. It is designated Csb in the Koeppen-Geiger climatic classification.

Owing to the moderating influences of the sea, the Victoria area enjoys milder winters than any other part of Canada. The mean January temperature along the exposed coastal fringe is between 38°F and 40°F, decreasing inland to 35°F at Shawnigan Lake. On average, temperatures below freezing occur in Victoria only 20 days during the year and during the 60-year record, several winters have passed without the temperature falling to 32°F, the most recent being the winter of 1958-59. Under stable, high pressure conditions differences of minimum temperature of as much as 10 to 12 degrees between the tops of hills and the bottoms of depressions may occur in the greater Victoria area on winter mornings. Proximity to the sea usually prevents the occurrence of very low temperatures in coastal areas.

The average dates of first and last frosts are December 7 and February 28, giving a frost-free period of 282 days. Most of the lowland areas in the region can expect a frost-free period of more than 209 days, except at Shawnigan Lake station where, as a result of air drainage, it is reduced to about 168 days. Absolute minimum temperatures range from 12°F at some coastal stations to -6°F at Shawnigan Lake. The long frost-free season and the absence of bitterly cold weather encourages the cultivation of greenhouse crops and tender perennials.

Spring begins early, but the warming trend from winter into summer is gradual. Summer is distinctly cool, especially on the coastal fringes. Temperatures are higher inland away from the cooling influence of the ocean, reaching a mean of 63°F at Shawnigan Lake. Summer days may be pleasantly warm, reaching a mean daily maximum at Victoria of 68°F in July, but the nights are quite cool with a mean daily minimum of 52°F. For maximum agricultural growth this greatly prolonged summer season of moderate temperatures compensates to some extent for the lack of intense heat. Autumn, like spring, is a period of gradual transition.

FIGURE 5
Soils of the Victoria area
(after Day, J.H., Farstad, L.
and Laird, D.G.).



Precipitation on Vancouver Island decreases rapidly eastward and most of the Victoria lowland area lies in a partial rainshadow belt. During June, July and August total precipitation amounts to barely two inches – out of an annual total of 27 inches. With the end of the summer drought, precipitation increases to a maximum of 4.79 inches in December and then declines steadily to less than one inch in May, the beginning of the next dry season. Variability of precipitation is fairly high, particularly during the dry summer season when rainfall is most needed. The mean July deviation from the average precipitation is 70 per cent at Victoria, one of the

highest in British Columbia.⁵ Precipitation generally is less than 35 inches in the eastern part of the area, including Saanich Peninsula and neighbouring Gulf Islands, and increases westward to nearly 64 inches at Sooke Lake and 115 inches at Bear Lake, 13 miles to the west. The precipitation is of cyclonic origin, with orographic influence responsible for the higher totals in the western uplands.

Snowfall is naturally greatest in the uplands where total precipitation is higher and temperatures are lower. Goldstream Lake reports a 58-year average of 73.3 inches of snow compared with the low coastal mean of

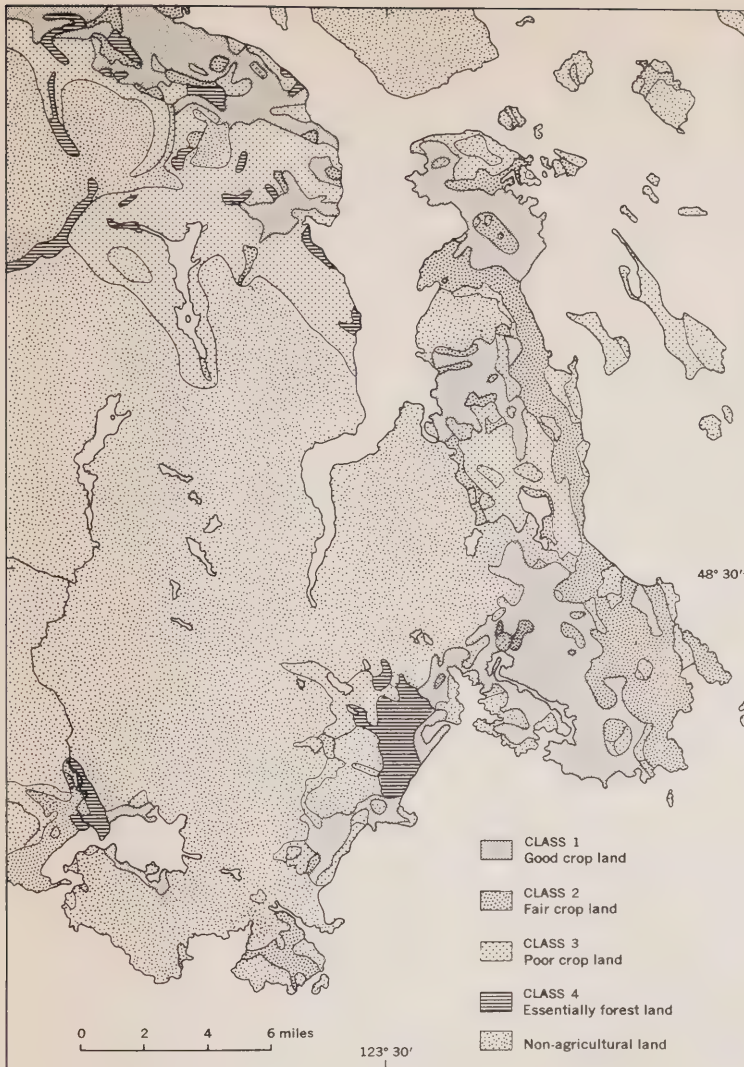


FIGURE 6
Land capability classes in the
Victoria area (after Day, J.H.,
Farstad, L. and Laird, D.G.).

4.9 inches at William Head. Most of the lowland records less than 20 inches a year and much of this melts soon after reaching the ground.

A substantial moisture surplus exists in winter throughout the region, averaging at Victoria about 3.2 inches in the rooting zone. By June it has been largely used up and is now followed by a moisture deficit throughout the summer which, in the drier sections of the lowland, may amount to 11 inches. Quantitative estimates of moisture deficiency, which are recorded and calculated at a number of area locations, are invaluable for irrigation planning programs.

Summers are sunny as well as dry and even in winter sunny days occur periodically. Victoria's mean of 2,200

hours of bright sunshine is the highest of all Canadian stations outside of the southern Prairies. Sunshine averages decrease gradually northward and rapidly westward as annual precipitation increases. Fog, most prevalent in autumn, is neither so dense nor so frequent as on the more exposed coast of Vancouver Island or on the lower mainland.

On the whole, the climate of the area is pleasant for human comfort throughout the year and favourable for a great range of agricultural crops. Long summer days and abundant sunshine help to compensate for relatively low summer temperatures. Summer drought is, however, a serious disadvantage and irrigation is essential for many crops and desirable for others.

Natural vegetation

Although many years of logging and agricultural occupation of the land have greatly altered the original vegetation, the varied soils and irregular terrain in the Victoria area continue to support several distinct plant communities. Within short distances great contrasts are noted between coniferous forests, typical of the continent's moist northwest coast, and open Garry oak woodlands resembling Mediterranean vegetation. The intermingling and merging of these communities reflects the transitional nature of the climate.

Heusser (1960) describes Vancouver Island as lying in the Pacific Coastal Forest region with the climax vegetation dominated by western hemlock and western red cedar.⁶ As a result of forest fires and logging operations large areas are covered by a sub-climax vegetation in which Douglas fir predominates, often in pure stands, although it may also be associated with western hemlock, western red cedar, and lodgepole pine. Only in the southeastern portion of Vancouver Island, where the relatively dry summer conditions favour it over the competing hemlock and cedar, is the Douglas fir considered a climax status. Even it gives way to broadleaved species in the driest coastal zone around Victoria. On favourable sites with adequate moisture these conifers may reach heights of over 200 feet and develop tremendous girth. As second growth in many logged-over areas, alder, willow and maple may dominate the vegetation for a long period of time or exist in association with young coniferous growth. Most of the upland areas support a mixed forest dominated by conifers wherever soil depth permits.

In areas dominated by the deciduous Garry oak and its associated grasses and arbutus trees, the landscape assumes a park-like character. Adapted to summer drought conditions, the broadleaved Garry oak thrives in the dry, southeastern coastal belt, even where soil is shallow and rock outcrops frequent. It usually appears in extensive, pure groves while the arbutus, the only broadleaved evergreen tree native to Canada, is more often found singly or in small groups among coniferous trees, especially on rocky sites along the coast.

Historical development

In the last quarter of the eighteenth century Spain Britain, Russia and America, ambitious nations with clashing interests, were involved in exploration, trade and settlement along the Pacific coast of North America. No interest appears to have been taken in the actual site of Victoria, however, until 1837 when Captain W.H. McNeill examined the shores of the Strait of Juan de Fuca in search of a favourable site for a new headquarters post for the Hudson's Bay Company. The

Company had rightly begun to fear that its main post, Fort Vancouver on the Columbia River, was being threatened by American immigration into that area and might lie in American territory when the United States-Canada boundary was finally determined.

The decision was taken to establish the new post on the southern tip of Vancouver Island and in 1842 James Douglas, chief factor at Fort Vancouver, visited the area to select the most suitable site for a post. He carefully inspected the harbours at Sooke, Pedder Bay, Esquimalt and Victoria. Although Victoria Harbour was less commodious and more difficult of entry than that of Esquimalt, it was considered a preferable location because of the extensive bordering tracts of level to gently sloping land covered with open Garry oak-grassland vegetation. Undoubtedly Douglas had in mind the necessity of the post being self-sufficient agriculturally and the possibility that it might be called on to produce part of the food which, under a trading agreement reached in 1839, the Hudson's Bay Company had contracted to supply to Russian posts farther north along the Pacific coast. The new fort was erected during the summer of 1843 and named in honour of Queen Victoria.

In 1846 the 49th parallel was accepted as the International Boundary westward from the mountains to the Strait of Georgia. It then followed a line along the centre of the Strait of Juan de Fuca, leaving all of Vancouver Island within British territory. However, except for a few scattered trading posts, each occupied and operated by a handful of men, the British realm west of the mountains was still "Indian Country".

Many years of Indian occupancy had left little imprint on the landscape. Fishing, hunting and the gathering of roots and berries provided their livelihood, and their demands on the forest for cedar planks for homes, cedar logs for canoes, and maples for tools and dishes were relatively modest. Small cleared areas, generally situated along the coast, sufficed for their villages. Close to their villages the Indians may have cultivated small plots of potatoes before Fort Victoria was established, having learned the technique through earlier contacts with fur traders.

It was Company policy that trading posts should produce their own food supplies. Cultivation of crops at Fort Victoria therefore was begun without delay at the Fort Farm, situated outside the fort on land which today lies between Douglas, Fort, Quadra and Broughton streets in downtown Victoria. Dairy cattle and other livestock were brought in from the Company's Puget Sound farms and a small dairy was established at the head of James Bay. The abundant crops included wheat, oats, barley, potatoes, peas and other vegetables. Demands for food supplies for the Russian forts

continued to increase and, in addition, American whalers and Royal Navy ships stopped at the fort for provisioning.

The question of colonizing Vancouver Island had been under discussion for several years and fear of the empty land being occupied by American squatters undoubtedly hastened a decision. In 1849 the Hudson's Bay Company was granted the whole island for the purpose of establishing, within five years, a colony under the British Crown. The colonization policy of the Company, as laid down by the officials in London, was to attract as colonists men of means, good character and high social standing who would be expected to become landed proprietors and to bring with them a number of hired men or families to work the land. In order to attract such "country squires" the price of land was fixed at one pound per acre and a minimum purchase of 20 acres was stipulated. These conditions were designed to keep out the virtually penniless settlers who were streaming westward on the other side of the United States border where land was available at one dollar per acre. In this regard the exorbitant price had its desired effect, for only one colonist, Captain W.C. Grant, formerly of the *Scots Greys*, actually arrived to take up residence within the first year and he remained only two years.

This experiment in gentleman farming was not a success, nor did the initial attempt by the Company to establish the colony by sale of lands at Victoria and Esquimalt to its own officers fare much better. During the early fifties, however, the settlement expanded gradually in spite of the discouragingly high price of land. Lumbering operations were expanded to provide surplus supplies for export to the booming California market and, in addition to the mills at Sooke and Esquimalt, a steam-powered sawmill was established at Witty's Lagoon, just north of Albert Head.

A townsite for Victoria was laid out in 1852 with an orderly grid pattern of streets bounded by Johnson Street on the north, Government Street on the east, Fort Street on the south and the harbour on the west. In 1853 the population of the colony was estimated to contain 450 settlers, 300 of whom were in the Victoria region, 125 at Nanaimo and 25 at Fort Rupert.⁸ By 1853, 19,807 acres had been claimed on the island — 10,172 acres by the Hudson's Bay Company, 2,374 acres by the Puget's Sound Agricultural Company and the rest by 53 individual settlers of whom 30 were actually present and active in the colony.⁹ Approximately 500 acres were under cultivation, all situated in the Victoria and Esquimalt areas, except for 30 acres at Sooke and 10 acres at Metchosin.¹⁰

By the spring of 1858 news of the gold discoveries in the gravels of the Fraser and Thompson rivers (and later,

the 1862 rush in the Cariboo) brought thousands of miners and their suppliers into the area. To maintain British sovereignty and to facilitate administration, the new mainland colony of British Columbia was established, the grant of Vancouver Island to the Hudson's Bay Company for exclusive trade and colonization was revoked, and the colony reverted to the Crown.

A more energetic settlement program was initiated. It had been the original intention of the Hudson's Bay Company to divide Vancouver Island into districts of from five to ten square miles to facilitate handling of land sales, and an official map published in 1855 showed eight districts in the southeastern part of the Island between Sooke and the tip of Saanich Peninsula which, except for minor boundary alterations, remained until the present as originally outlined and named. In 1859 about 20,000 acres in six of these districts (Esquimalt, Metchosin, Sooke, Lake, North Saanich and South Saanich) were put up for sale at one dollar per acre, the legal survey and subdivision of Saanich Peninsula having been completed only the previous year.¹¹ These land sales marked the beginning of a considerable infilling of the settlement pattern around the older communities and encouraged the expansion of farming on Saanich Peninsula.

Farm holdings in this period were smaller than previously and were operated mainly by the farmers themselves. The big 'estate' farms of the Hudson's Bay Company period were either gradually engulfed by the expanding city of Victoria or broken up into smaller holdings. The original Fort Farm was the first to disappear and by 1866 the others, including Viewfield, Colwood, Constance Cove and Craigflower, had all been subdivided.

During these years of the land boom and gold rush Victoria greatly expanded and in 1862 was incorporated as a city. New streets were laid out, old ones extended, the large block of land around Beacon Hill was set aside as a public park, and the new government buildings south of James Bay (site of the present Legislative Buildings) were linked to the older part of the city by a new 800-foot bridge. Esquimalt, long the deep water port for Victoria, especially during the gold rush days, had always been of special interest to the navy because of its fine harbour potentialities. In 1855 a naval hospital had been established there and in 1865 the port was designated as a permanent naval base of the Royal Navy Pacific Squadron.

After the gold rush a period of recession set in, giving impetus to thoughts of political reorganization. Union of the two colonies was finally agreed upon in 1866 and, after much negotiation, Victoria was named the capital of the enlarged colony known as British Columbia. Under the terms of union, the city abandoned

the free port status proclaimed for it by Governor Douglas some years earlier with a view to stimulating trade. In 1871 British Columbia joined Confederation, Victoria retaining its status as capital.

For a time after Confederation, Victoria grew rapidly as the key administrative, financial, commercial and industrial centre of the most westerly province and retained its provincial leadership in trade and manufacturing until the 1890s. As long as approach by sea remained the main access to the province, Victoria enjoyed a favourable position and urban growth was accompanied by a corresponding agricultural settlement that effectively occupied the limits permitted by local physical conditions. This was changed by the building of the Canadian Pacific Railway transcontinental line. The originally planned route to Bute Inlet and thence by ferry to Vancouver Island and a terminus at Esquimalt was abandoned for a more southerly one on the mainland, terminating at Burrard Inlet where a settlement already existed. The main line to Burrard Inlet was completed in 1885 and Victoria began to fall gradually into the shadow of Vancouver in all fields other than that of provincial administration.

A broad strip of southern Vancouver Island was granted to the Esquimalt and Nanaimo Railway in compensation for the great expense incurred in its construction. The Company divided this land into a number of sizeable districts, thereby completing the pattern of legal subdivision in the Victoria region that has been little altered to this day (Figure 7). The southern boundary of the land grant is indicated on the Sooke sheet of the land-use series (in pocket). The Cowichan valley and Shawnigan Lake areas, already developing as thriving agricultural, logging and sawmilling areas, were now connected to outlets in Victoria by railway, which for much of its length passed through virtually unpopulated mountainous country.

The 1890s marked the culmination of the land settlement period, most of the arable land having been occupied by this time. Away from the immediate vicinity of the larger centres agriculture continued to be the prime industry, except around Cowichan Lake where logging and sawmill operations predominated. The region's total area of cropland had reached approximately 11,000 acres by 1891 compared with 9,000 acres a decade earlier. Pasture acreage and land devoted to gardens and orchards were enlarged and, among individual crops, hay was by far the most important. Dairying and sheep raising were the chief animal industries and poultry production was widespread, even within the city limits.

Victoria grew from a little less than 6,000 in 1881 to nearly 17,000 in 1891. Its manufacturing industries included iron works, foundries and machine shops, and

sash, door and lumber mills. Flour and rice mills, brick and tile plants, breweries and a soap factory also were among the many industries which by 1891 made Victoria's output of manufactured goods double the value of those produced in Vancouver. The city also experienced considerable building activity and developed efficient public utilities, including electricity, gas and tramways. Property values increased particularly along the tram lines and the availability of transportation services encouraged residential building in outlying areas, often well beyond the city limits.

During the latter part of the 1890s Vancouver began to take over Victoria's position as the leading port and commercial centre of the province. By 1900 pre-eminence in trade and industry had shifted to the mainland and Victoria was becoming more preoccupied with government and tourism. Compared with Vancouver in 1903, imports were about 1.5 million dollars less, exports only about one-third and total value of manufacturing less than half — a complete reversal of the situation a decade earlier. Even so, between 1891 and 1911 the population of Victoria nearly doubled, reaching a total of approximately 32,000.

As Victoria became increasingly a tourist centre, a conscious effort was made to develop this industry and in 1901 the Victoria Tourist Association was organized. The appearance of the waterfront was improved by the filling in of James Bay tidal flats and the building of the Empress Hotel on part of the reclaimed land near the Legislative Buildings which had replaced those built by Douglas in 1858. At approximately the same time the Empress Hotel was opened in 1908, the planting of Butchart's Gardens was begun, converting abandoned quarries of the Vancouver Portland Cement Company into hanging gardens open to the public. Victoria by this time already had a reputation as a desirable retirement spot, but was not yet outstanding in this respect.

Practically all land suitable for agriculture had been occupied before the 1921 census. Part of what had been considered as 'improved' land was found, however, to be unsuitable for efficient utilization and some of it was allowed to revert to 'unimproved' status. Urban expansion, particularly during the real estate boom that preceded World War I, encroached upon farm land in the vicinity of the city. Although farm land was used more intensively, agriculture was by no means developing at the same rate as population growth. The local market had long been partly supplied from outside the region and it was evident that imported produce would have to constitute an increasing proportion of the total consumption.

The storage and handling facilities of the Ogden Point wharves were greatly expanded and improved during the 1920s. Extensive freight yard trackage was

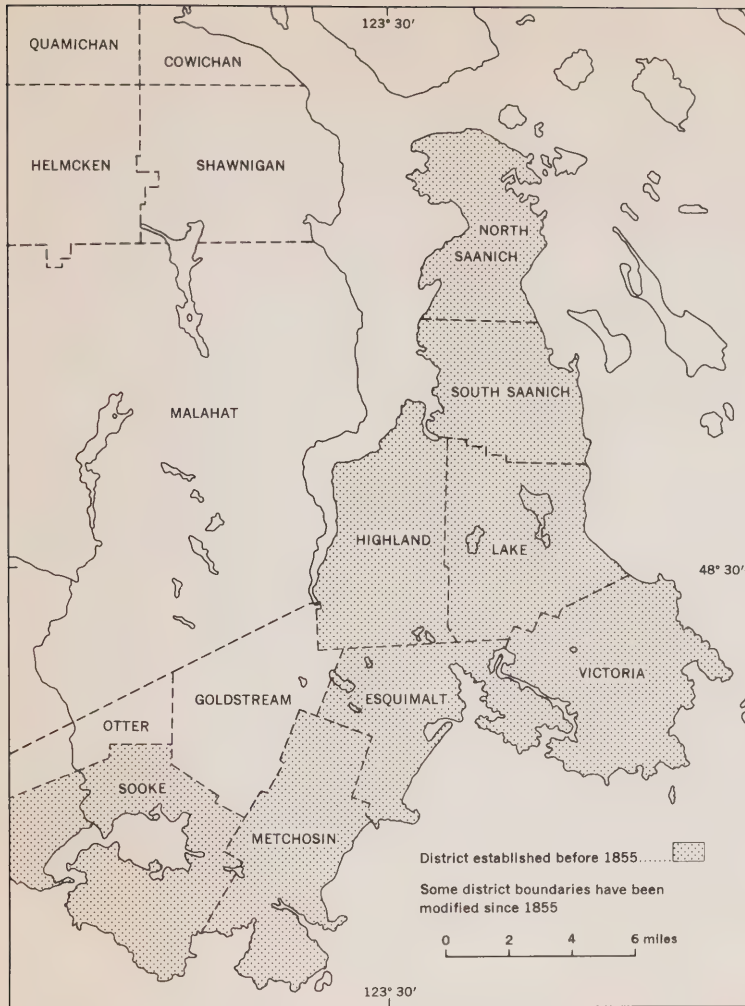


FIGURE 7
Present land districts in the
Victoria area (compiled from
British Columbia Department of
Lands and Forests Map
196).

laid to facilitate the marshalling of lumber for export, and both a cold storage plant and a grain elevator with one million-ton capacity were erected. The elevator was completed in 1929 and the first grain shipments were handled that year. Despite the opening of the Panama Canal, the expansion of trade with the Orient, and the completion of the fully modern Outer Harbour dock facilities, the growth of the Victoria shipping trade did not reach the proportions which had been optimistically forecast.

The rate of population growth during the twenties and thirties was lower than at any time before or since, but the percentage of residents over 65 years of age increased noticeably. This tended to confirm the popular impression of Victoria as a "retirement centre". The distinction made in the 1931 census between rural farm

and non-farm population showed that the farm population in the Victoria region constituted little more than one-third of the total.

Both the number of farm operators and the acreage of occupied land decreased between 1931 and 1941, but resulted in little change in areas of improved land, field crops or pasture. Shifts in crop emphasis occurred, with oats increasing its dominance among cereal crops and hay acreage nearly doubling in some districts to provide fodder for the larger herds of dairy cattle. Better farming areas, especially on Saanich Peninsula, experienced a greater intensity of use, while outlying areas of lower quality land declined in productivity.

During World War II, Victoria's industry recovered from the depression as a result of demands bred by wartime necessity. The shipbuilding and repair industry



FIGURE 8. The built-up area of Victoria carpets the narrow peninsula between the Inner Harbour and the Strait of Georgia. Volcanic Mount Baker in the State of Washington crowns the distant eastern horizon (Photo: *courtesy* British Columbia Government).

flourished, while sawmills and other woodworking plants operated at peak production. The naval base greatly expanded on both sides of Esquimalt Harbour and the Army increased its garrison at Work Point. New military establishments included an army camp at Gordon Head – now part of the University of Victoria campus, an Air Force station at Patricia Bay – now the Victoria International Airport, and H.M.C.S. Royal Roads, an officer training establishment – today a military college with greatly expanded facilities.

Postwar settlement tended to be more scattered than previously and as a result problems associated with urban sprawl were aggravated. As shown by the 1951 census, all districts experienced considerable increase in population, notably Saanich municipality and the unorganized territory. Victoria's population increased 15 per cent between 1941 and 1951 and continued to lead all other major cities in Canada in the proportion of elderly

people. Only one-third of the residents of Victoria were born in British Columbia, while more than one-quarter were born in the British Isles. The majority of persons born in other parts of Canada came from Saskatchewan, Ontario, Alberta and Manitoba, in that order.

In the 1950-1960 decade expansion of the economy was rapid and the present pattern of land use was established. Acceleration of urban expansion during the 1950s is clearly indicated by the substantial population gains recorded in the 1961 census (Figure 8). There was a pronounced extension of residential land use for single family dwellings. Subdivision of farms proceeded haphazardly in suburban areas, producing a patchwork of residential uses. Apartment living became more popular in the city with a number of high-rise apartment blocks being erected. Provincial and federal government activities steadily increased to meet the needs of a prosperous and fast-growing province. Various military

establishments closed down at the end of the war but the large, complex Esquimalt naval base remained fully operational and today constitutes a major source of civilian employment. The 1950s saw the development of integrated neighbourhood shopping centres in the metropolitan area and the growing tourist industry resulted in the opening of many new motels and restaurants.

Air passenger transport reached its peak development during the fifties, but declined at the close of the decade owing to competition from the new British Columbia Ferry service. This fast ferry service from Tsawwassen on the mainland to Swartz Bay at the tip of Saanich Peninsula made north Douglas Street, rather than the former mainland ferry service terminus in Victoria Harbour, the front door to Victoria.

A summary of the population growth over the century is shown on Figure 9. As the population figures are plotted on a logarithmic scale, the resulting curves accurately represent rates of growth. It is apparent that Saanich is the fastest growing municipality and that

Victoria's growth rate declined during the last ten years but is now growing at a faster rate than at any time since the first decade of the present century. Figure 10 illustrates settlement patterns in the Victoria area at selected dates during the past century.

Land-use classifications in the Victoria area

Woodland

As would be expected of rugged, thin-soiled terrain, the dominant land cover in the region is woodland. The Shawnigan and Sooke map areas are mainly forest-covered and only in the Sidney and Victoria map areas is there a high percentage of agricultural and urban land. Even the agricultural landscape is dotted with patches of trees. No attempt has been made to indicate on the land-use maps whether stands are of commercial or non-commercial quality. On the basis of volume nearly one-half of the timber is Douglas fir, about one-quarter is western hemlock and one-eighth is western red

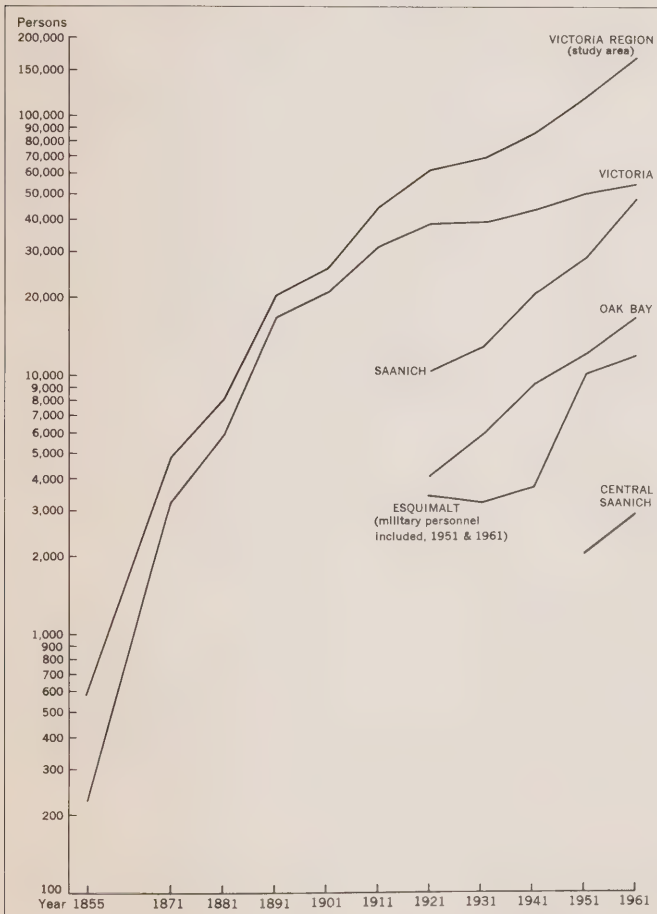


FIGURE 9
Rate of population growth
— Victoria region, city and municipalities, 1855 to 1961.



FIGURE 10. Settlement patterns in the Victoria area, 1871, 1901, 1941, 1961.

cedar. The remainder includes a number of other species, chief of which is balsam fir.

The abundant forest resources of southern Vancouver Island have given rise to logging, sawmill operations and other wood product industries, but much of the timber processed today is not of local origin. It is evident from the predominance of immature timber that most of the region has been logged-over. The only extensive area logged in recent years is that drained by the Sooke River and its tributaries. Limited areas are found east of Sooke Lake, west and northwest of Shawnigan Lake, and in the Highlands. At present most of the logging activity in southern Vancouver Island is carried out west and north of the study area, although many of the loggers live in the vicinity of Sooke and Duncan. Logs are brought by water to mills in Victoria and Esquimalt where lumber, plywood and shingles are manufactured.

The woodland categories are indicated on the land-use maps accompanying the report.

Dense woodland — forested areas where most of the trees are over 20 feet high and the crowns are touching (Figure 11). The forest may be mature or immature and may include a variety of species. Dense woodland, the major forest category, covers large acreages throughout the study region, particularly in the Shawnigan map area.

Open woodland — large trees separated at least to the extent that crowns are not touching (Figure 12). Frequently, scrub growth and small young trees form a ground cover. Open stands, common in the Highland District of the Sidney and Victoria map sheets and quite extensive in the Sooke map area, have resulted in most cases from selective logging operations. Stretches of naturally open forest occur on steep, rocky slopes, especially near the summits of hills, where sufficient soil to support tree growth exists only in scattered pockets. The oak-grassland association, found locally around the city of Victoria, is a natural open woodland.

Scrub woodland — a dense growth of shrubs such as broom, deciduous thickets such as young alder or willow, or regenerating coniferous forest a few feet to 20 feet in height (Figure 13). It occupies large acreages of formerly logged or burnt-over terrain, low marshy sites, and long-abandoned farmland. When small trees and bushes become dense enough to eliminate most of the interspersed grass cover, the transition from scrub grassland to scrub woodland has occurred. Such areas, though small in acreage, are widespread throughout the settled regions.

Cut-over or burnt-over areas — areas that have been clear-cut or completely burnt-over fairly recently. The cover may consist of tangled undergrowth together with scattered coniferous seedlings and with remnants of the

earlier forest in the form of considerable woody debris and stumps. Within a few years dense new growth normally begins the transition to scrub woodland, though on barren slopes with thin soils regeneration progresses much slower. Large patches of recently logged-over land are found in the Sooke map area, in the Highland District and in several locations within the Shawnigan map area.

Unproductive land — bare rock exposures lacking enough soil to support continuous scrub or grass vegetation. Such areas occur on summits and upper slopes, notably in the rugged hill country west of Langford and north of Sooke, and on certain windswept islands and sea-washed shores where continuous vegetation cover has not become established. Within the built-up areas of Victoria and Esquimalt several parcels of vacant, unused land which may eventually be devoted to urban uses, are also designated as unproductive.

Swamps and marshes — relatively small but widely scattered, poorly drained depressions with typical marsh vegetation. The tidal marsh at the head of Finlayson Arm is the most notable example. A number of former marshy areas have been drained and brought into agricultural use.

Agricultural land

The diverse nature of the physical environment is partially responsible for the variations in agriculture throughout the study area. Most of the agricultural land lies below 500 feet in elevation, though within this lowland there is considerable topographic irregularity. Soils range from fine-textured clays developed on fairly level marine materials to coarse-textured sandy loams developed on till, and vary greatly in fertility and suitability for cultivation. The mild, moist winter climate is favourable for many tender crops, such as holly, early blooming daffodils and tulips, and greenhouse crops. The cool, dry summer condition constitutes a severe limiting factor in agricultural production, necessitating the use of irrigation for many crops.

Types of agricultural enterprises include mixed farming, dairying, horticulture and various specializations. Hay and oats are the chief field crops and pasture land accounts for a large percentage of farm acreage. Dairy cattle are the main livestock on farms, while beef cattle, sheep and swine are raised in more limited numbers. Specialized poultry and mink farms are numerous and contribute significantly to the total value of animal products. Horticultural crops include potatoes and other vegetables, small fruits, bulbs, flowers, and various orchard crops. Special climatic advantages favour the production of tomatoes, cucumbers and flowers as greenhouse crops, and loganberries, early spring flowers

FIGURE 11
Dense woodland at Sooke
Lake.



FIGURE 12
Open woodland resulting
from selective cutting of
trees.



FIGURE 13
Regenerating coniferous
growth that is classed as scrub
woodland.





FIGURE 14
A field classed as scrub grassland near Albert Head.

and holly as outside crops. Many of the farmers engaged in horticulture and mixed farming do so on a part-time basis.

A rough zonation of agriculture is indicated by the change in character of farming with increasing distance from the Victoria market. Of course, the peninsular configuration of the land along with variations in topography and soils interrupt the regularity of zones. The expected general pattern prevails – intensive use of small plots near Victoria changing to more extensive agricultural use on larger farms away from the city. Small enterprises, including greenhouses, are numerous in the urban fringe, producing especially vegetables, fruit, flowers and nursery crops. Also in this zone are found a number of mink ranches and poultry farms. Saanich Peninsula boasts the greatest concentration of small fruit production, chiefly strawberries and loganberries, as well as potatoes, bulbs, cut flowers, holly and tree fruits. Considerable dairying and some mixed farming persists on the peninsula, although more intensive agricultural and urban uses are forcing a northward shift in production of dairy products. Generally, mixed farming is found in areas more remote from Victoria and less favourable in terms of soils and topography, such as the Highlands, Sooke and Shawnigan Lake areas. Dairying is best developed in the region from Cobble Hill to Duncan where competition with horticultural enterprises for available agricultural land is not so marked. Finally, the fringes of hilly and mountainous areas are regions of sparse grazing lands supporting sheep and goats.

The following land-use categories indicate the various types of crops found within the limits of agricultural land.

Scrub grassland – characterized by scattered shrubs and small trees interspersed with grass and weeds (Figure 14). In most cases, such land once was cultivated or maintained as improved pasture and later neglected or abandoned. Some scrub grassland was never cultivated but was roughly cleared and used for pasture after grass was encouraged to grow between the stumps. Broom, which is drought-resistant and fast growing, is the most common shrub especially in the southern part of the region. Other fields are dotted with young fir trees, usually several feet high but too scattered to be classed as scrub woodland. Although scrub grassland is found throughout the settled region it is most common on the forest fringes of agricultural areas.

Open grassland – less noticeably invaded by shrubs and small trees than scrub grassland. The transition to scrub grassland occurs when the density of the woody vegetation increases and when average tree heights reach four or five feet. Open grassland includes many abandoned or neglected fields, unimproved grazing land that is regularly used, and areas held for residential, industrial or other non-agricultural uses. This latter type of land is most common in the immediate vicinity of Victoria, whereas neglected farm land and unimproved grazing land are found throughout the agricultural country.

Improved pasture – alternates for the most part with other crops, particularly hay, as part of a rotation system. The remainder is maintained as permanent pasture, perhaps being reseeded at intervals of several years. Pasture, hay and other forage crops occupy a large part of the improved agricultural land because dairying is the major source of farm income. The mild winter climate combined with adequate precipitation favours

the rapid growth of grass and legumes from March to May, but the dry summers inhibit the growth of these forage crops. Consequently, irrigation is essential to assure good pasture during the summer.

Hay – crops form a basic part of the agricultural economy. It is common practice to cut the crop for silage about May 15, taking advantage of the early spring growth. The first hay crop is harvested in late June, and under favourable circumstances a second crop may be cut in late August or early September. Where irrigation is used the second crop is assured.

Grain – as a land-use category includes all cereal crops, although only a small percentage of the total crop is threshed. Cereals often are used as nurse or companion crops for forage seedings, especially on the heavier soils. In these cases, the cereal crops are removed early as pasture, silage or hay.¹² Fall cereals are used as winter cover crops to protect the soil from excessive erosion and leaching. By far the leading cereal is oats, and among others only wheat is produced in significant quantities. Cereal crops are found closely associated with hay and improved pasture, especially in dairy regions, because they are grown usually as part of a rotation system.

Horticulture – includes all vegetables, bulbs, flowers, greenhouse crops and nurseries. Greenhouses are specifically indicated by a black dotted symbol on the base map which is overprinted by the colour designated for horticulture. The moderate temperatures, especially in winter, the high percentage of sunshine and the virtual lack of hailstorms are features of the Victoria climate that favour large-scale economic production of certain vegetables and flowers under glass. About one-half of British Columbia's total greenhouse area is concentrated in the vicinity of Victoria. The leading crop produced, both by area and value, is tomatoes. The bulk of the crop is ripened between mid-May and the end of July, before field tomatoes come on to the market. Cucumbers and various flowers grown chiefly for cutting constitute other important greenhouse crops. A number of market gardens on the outskirts of Victoria and on Saanich Peninsula specialize in vegetable production, and several farms on the peninsula grow large quantities of potatoes. Production of most vegetable crops is far below the requirements of the Victoria market and it is mainly during the summer that imported vegetables are supplemented by local produce. Climatic advantages are directly responsible for the large production of field-grown cut flowers that can be marketed in early spring. Mild winter and spring temperatures accompanied by ample rainfall and a moderate duration of sunshine bring forth flowering spring bulbs between mid-February and mid-April. Daffodils and narcissi constitute the greater part of the crop, followed by tulips, iris, hyacinths and

gladioli. The demand for bedding plants, ornamental shrubs and trees supports numerous plant nurseries, especially in the suburbs and on Saanich Peninsula.

Small fruits – chiefly strawberries and loganberries, are of great importance on Saanich Peninsula. Other fruits, including blackberries, raspberries, blueberries and black currants, along with the nut crop, filberts, are grown in small quantities. Proximity to market is important for the small fruit producers; the peninsula is well situated to serve the Victoria market and to ship by ferry to the lower mainland. Irrigation is almost essential for successful production of small fruits in the Victoria region. The two leading crops are almost equal in area occupied, but strawberries generally exceed loganberries in total crop value. Saanich Peninsula produces the earliest strawberry crop in the province: the first berries usually are available about May 28 and the harvest continues until nearly the end of June. The loganberry is a variety of the Pacific coast trailing blackberry and cannot stand zero temperature conditions or alternate freezing and thawing.¹³ Most of the province's commercial production comes from Saanich Peninsula, which is one of the few areas well suited climatically to the growth of this crop (Figure 15). Vineyards do not occupy sufficient area to be represented on the land-use maps, although they are listed as a separate category in the World Land-Use map legend.

Orchards – is the land-use category indicating the distribution of all tree fruits and English holly. Tree fruits occupy far less acreage than holly and their production is definitely declining. The climate is favourable for the growth of apples, pears and cherries under irrigation, but summers are too cool for peaches and apricots. Apples are by far the leading crop and the only one produced in sufficient quantities to supply a substantial part of the local market in season. Holly is grown almost exclusively for Christmas decoration sprays or for use in wreaths. Although extensive coastal areas of Vancouver Island and the lower mainland are climatically suitable for the growth of holly, easy access to urban markets has operated as a prime factor in localizing production. Saanich Peninsula is extremely well situated to serve Victoria and Vancouver and possesses a major airport from which shipments may be consigned to eastern Canada. The peninsula accounts for approximately 80 per cent of the total British Columbia production. The crop is harvested during a period of three or four weeks from late November until shortly before Christmas when the branches are bearing the bright red berries characteristic of English holly.

Fur farms – are indicated on the maps with the letter F. The moderate climate and the availability of cheap supplies of fish as a component in the animal feed are



FIGURE 15. Fields of loganberries in the central part of Saanich Peninsula north of Elk Lake (Photo: *courtesy* British Columbia Government).

favourable factors in the operation of successful fur farms. Mink is the principal fur-bearing animal raised, though chinchilla and nutria are kept in considerable numbers by the small-scale fur producers. Fur farms are concentrated in the urban fringe, especially in the Langford-Metchosin area, but are numerous also on Saanich Peninsula. A distinct trend, in mink-raising particularly, is toward fewer but larger ranches.

Poultry farms — indicated with the letter P, supply the Victoria market with the bulk of its requirements of fresh eggs and broilers. Like dairying, the poultry industry is oriented to the local market and there is little surplus for shipment outside the region.

Urban and associated non-agricultural land

Several categories designate uses that are essentially urban and definitely non-agricultural. Among these, recreational, residential, commercial and industrial are

indicated specifically, while other urban or associated uses, including institutional and government, are grouped into a single map category. Transportation routes and facilities are shown on the base map or have been included, appropriately, with commercial or associated urban uses where they occupy sufficient space to be represented at the map scale.

Recreational areas — include large regional parks, smaller municipal parks, beaches, playgrounds, golf courses, tennis clubs, yacht clubs and school playing fields. Forest or grassland cover in the undeveloped areas of large parks is indicated as such on the maps, while the developed areas are marked as recreational. In such cases, the park boundaries are outlined clearly. Many beaches, although used by the public, are not specifically designated as recreational, sometimes because they are too narrow to be shown and in other cases because they have not been developed officially as recreational land.

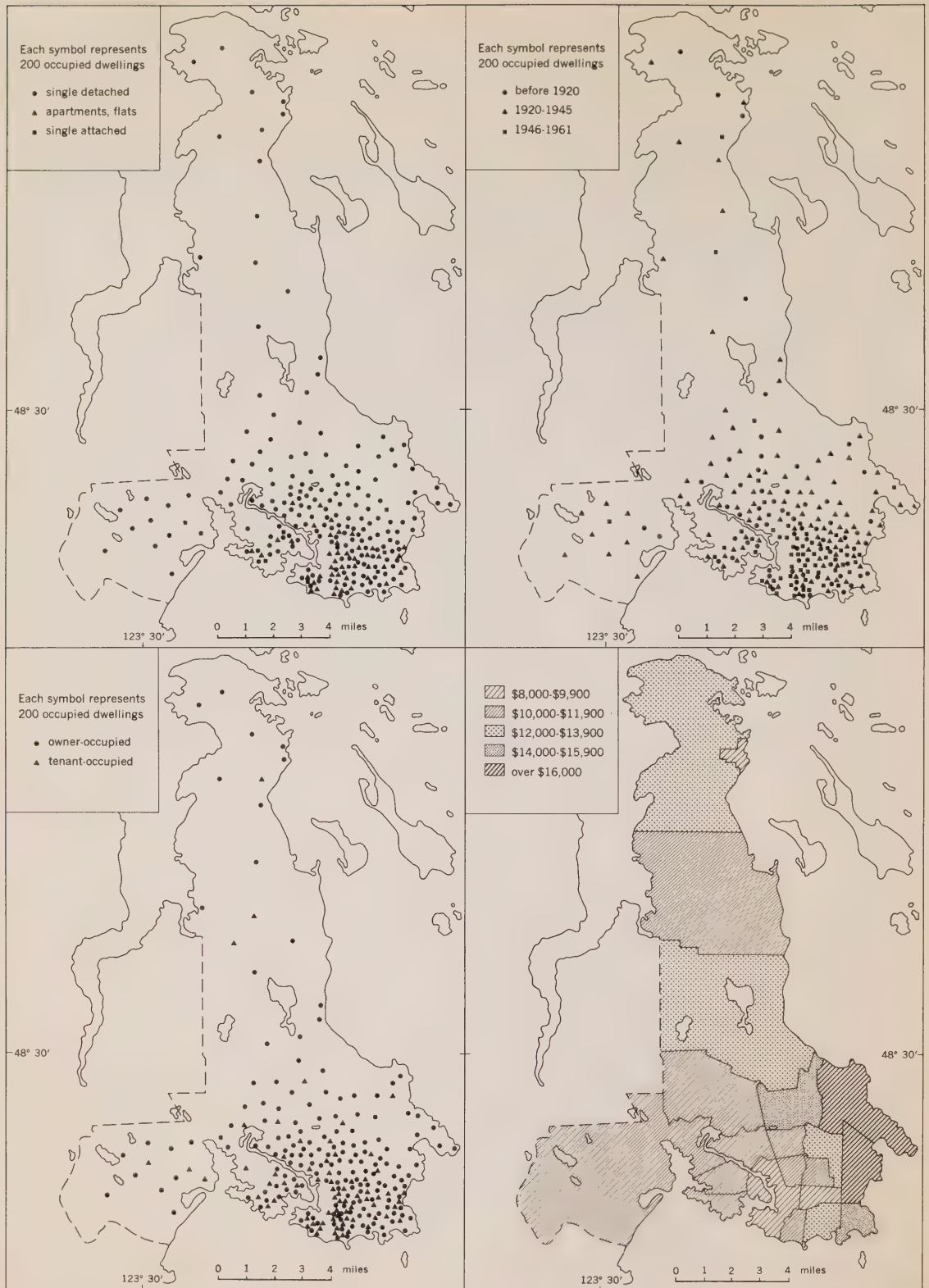


FIGURE 16. Number, type, age, ownership and median value of occupied dwellings in the Victoria metropolitan area, 1961.

School playgrounds generally are included with the school proper in the associated urban category, except where the playing fields are very extensive. Numerous small recreational clubs or facilities do not appear on the maps owing to limitations of scale, and other recreational establishments, such as theatres, bowling alleys and dance halls, have been placed in the commercial category.

Residential areas — shown on the maps include the dwelling units along with the developed urban lots or farmsteads on which they stand. Residential land predominates on the Victoria sheet, but is more localized on the others (Figure 16). A more open pattern, commonly called urban sprawl can readily be seen in the region north of Mount Tolmie, Lake Hill and Marigold (Figure 17).

Within built-up areas residential neighbourhoods vary in design and quality from blighted areas of old houses to attractive, modern residential districts (Figure 18). Generally speaking, the higher quality residential sections are situated on rugged or sloping land, often commanding a view, or at low elevations along the waterfront. Barren rock outcrops largely denuded of soil frequently are sites of many outstanding and expensive homes. It is ironic that the level land of good soil which was considered most desirable in earlier days and was occupied first is now less valuable than the barren uplands. Although Victoria is predominantly a city of single-family, detached dwellings, there has been a marked trend toward apartment living in recent years. High-rise apartment blocks have been erected mainly in the James Bay district, west of Beacon Hill Park, and more are planned for this area.

Commercial areas — are most extensive in the urban core, but small patches of commercial development appear scattered throughout the region to serve the

dispersed metropolitan population. Retail, wholesale and service industries are the main components of this category, although business and professional offices also are included under commercial land use. Similarly, wharf and shipping facilities, such as the grain elevator, lumber yard and cold storage plant at Ogden Point, have been considered as commercial in character.

The retail trade of Victoria has long been a well developed feature of the economy and one of the chief sources of employment. This relatively prosperous region of high wages and considerable investment income supports a remarkably high volume and diversified retail trade in relation to the size of the population. This holds true despite the fact that Victoria has a limited retail tributary area, owing to its peninsular situation on the southern tip of Vancouver Island. Of course, the substantial summer tourist trade gives an added boost to retail sales and helps to account for certain specialty stores being unusually numerous. Wholesale establishments are situated on the fringes of the central business district and along the waterfront of Victoria Harbour (Figure 19). Most wholesale firms serve a trading area encompassing the southern tip of Vancouver Island as far north as Duncan. Before the war Victoria wholesalers dominated the whole of Vancouver Island, but the rise of Nanaimo as a wholesale centre for the region north of Duncan has limited Victoria's wholesale hinterland. Among commercial services, hotels and motels are exceptionally numerous for the size of the city, reflecting the importance of the tourist trade.

Industrial areas — include both extractive and manufacturing industries. Certain maintenance shops of the Esquimalt and Nanaimo Railway in Victoria West have been placed in this category along with industrial storage yards and wharves of manufacturing establishments. Extractive industries are confined to gravel pits and quarries, gravel pits being especially numerous. Utilizing



FIGURE 17
Urban sprawl in the Gordon Head
area of Saanich.



FIGURE 18. The Gonzales Bay district pictured here is an example of the interesting and attractive terrain for residential development which the region offers (Photo: *courtesy* British Columbia Government).

the abundant glaciofluvial sand and gravel deposits, several companies provide various grades of construction materials. The largest installation, equipped with elaborate crushing and grading facilities, is situated on the waterfront of Royal Roads at the base of the pro-glacial Colwood delta. A large limestone quarry about one mile north of Shawnigan Lake is being worked by the British Columbia Cement Company to supply its plant at Bamberton with raw material. The older quarries at the plant site are no longer used. Manufacturing industries are concentrated chiefly on or near the waterfront of Victoria Harbour. Some of the smaller ones are on the fringes of the central business district and a few occur individually in various locations throughout the region. The two leading industries, log converting and shipbuilding and repairing, together account for approximately 75 per cent of the total employment engaged in

manufacturing. To a great extent they are basic industries within the urban economy, that is, their products are sold mainly to non-local buyers, thereby channelling outside revenue into the city's economy. Lumber and plywood are the most important products of the log converting industries. The upper part of Victoria Harbour is the centre of production (Figure 20), but there are smaller mills on Esquimalt and Sooke harbours as well. Wood chips, a by-product of the sawmills, are shipped by barge to various British Columbia and United States pulp and paper plants. Shipbuilding in Victoria has been an industry of fluctuating employment during the postwar era reflecting the unstable nature of this industry which depends partly on naval construction, conversion and repair work. Commercial contracts for the construction of barges, ferries and non-marine heavy equipment represent the



FIGURE 19

A variety of waterfront uses are illustrated from the fisherman's wharf in the foreground past the petroleum storage depot, shipyard and paint manufacturing plant to the passenger ship wharves of the Inner Harbour (Photo: courtesy National Film Board).

basic civilian business. Among other manufacturing industries that are producing partly for non-local markets are a large paint company, a winery and a cement plant.

Associated urban areas — embrace numerous land uses essentially devoted to public service which may be divided into two groups, institutional and government. Areas indicated as associated urban do not necessarily coincide with the legal boundaries of the particular institutional entities, especially in the case of military areas. For example, wooded or grass-covered land owned by the Department of National Defence in the vicinity of military installations may be mapped as woodland or grassland rather than associated urban. In such cases, only the land developed for military purposes is placed in this category.

Summary

Geomorphic processes over a long period of time sculptured the rocks and deposited unconsolidated materials, producing a rugged, scenic landscape fringed by discontinuous coastal lowlands. The soils that developed in the lowlands were generally suitable for agriculture and the climate was favourable for numerous specialized crops. Magnificent stands of timber nourished the logging and lumbering industries from earliest times. Indisputably, the physical landscape offered a most attractive home for man.

Initially Victoria was a strategic and convenient outpost of a great fur trading empire. Settlement



FIGURE 20

The Upper Harbour is a focal point of considerable tug and barge traffic handling logs, lumber, wood chips, gravel and even railway cars (Photo: *courtesy* National Film Board).

advanced when it became the port of access to the British Columbia hinterland and its gold-bearing rivers and streams. For some time Victoria continued to perform its function as the leading port and trading centre of British Columbia, but established patterns of trade were suddenly changed with the arrival of the railway at Burrard Inlet. Though the meteoric rise of Vancouver soon overshadowed the former centre of commerce, Victoria gradually accommodated to its new destiny within the provincial economy. As Victoria's trade waned, its military importance increased: Esquimalt Harbour offered a superb site for a major naval base. Throughout its history Victoria retained its governmental function as capital, first of a colony, then of a province. As a manufacturing centre Victoria was

never outstanding, although wood industries and ship-building became important locally. During the twentieth century the region acquired a growing reputation as an attractive residential and retirement mecca, paralleled by the steady development of the tourist industry. The simple fact that Victoria was a pleasant place to live or visit assumed increasing significance in the regional economy.

Rural areas depended chiefly on agriculture and forestry. Favourable climatic factors, combined with varied terrain and soils, facilitated the growth of many specialty crops, as well as regular crops associated with dairying and mixed farming. Thus evolved the complex agricultural economy that characterizes the region and supports a sizeable farm population, including many

people who farm on a part-time basis. Agriculture is shifting and changing as a result of expanding urbanization. Forestry within the area is less significant now than formerly because most of the region has been logged over and small-scale cutting is proceeding only in a few scattered patches. Rural areas are being populated increasingly by non-farmers and urban sprawl is invading the countryside. Residential densities are increasing, in the form of single-family houses on the urban fringe and in the form of apartments in certain parts of the city, notably the James Bay district. To a certain extent the future well-being and prosperity of the area depends upon the preservation of an attractive residential environment. This can be achieved only by careful planning and control of urban expansion.

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SIDNEY BRITISH COLUMBIA

Scale 1:50,000 Echelle



Contour Interval 100 Feet

Elevations in Feet above Sea Level

Topographic Projection

Échelle des courbes, 100 pieds

Altitudes en pieds au-dessus du niveau de la mer

Projection: Transverse de Mercator

LEGEND — LEGENDE

Industrial Areas Zones industrielles	
Commercial Areas Zones commerciales	
Port Areas Zones d'habitation	
Recreational Areas Parcs et terrains de jeux	
Associated Urban (non-agricultural) Areas Zones urbaines associées (non agricoles)	
Hay Foin	
Corn Blé	
Market Gardens Exploitations horticoles	
Fruit Farms Fermes d'arbres à fruit	
Pasture Pâturage	
Small Fruits Petits fruits	
Improved Pasture Pâturage amélioré	
Open Grassland Prairie découverte	
Scrub Grassland Prairie à brousse	
Dense Woodland Terre boisée, dense	
Open Woodland Terre boisée, clair	
Scrub Woodland Terre boisée, broussailleuse	
Cultivated or Burnt-over Terre cultivée ou brûlée	
Unproductive Land Terre improductible	
Swamps and Marshes Marécages et tourbières	
Indian Reserves Réserves indiennes	
Ports	

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Assemblage des feuilles adjacentes



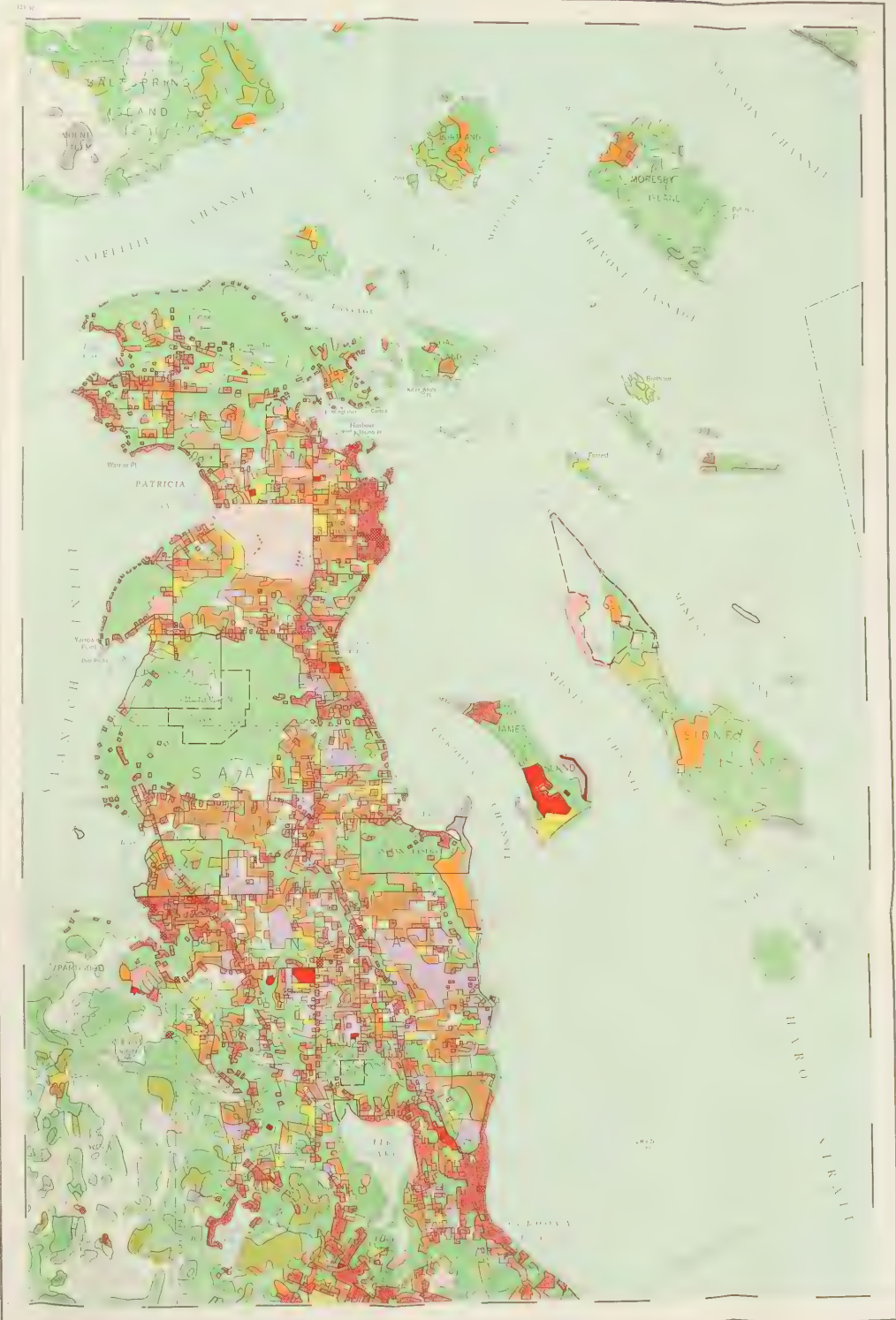
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LAND USE SERIES

SÉRIE DE L'UTILISATION DES TERRES

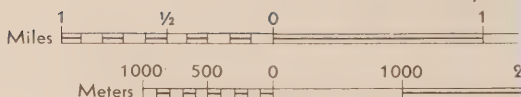


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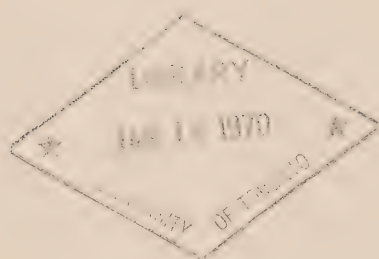


Contour Interval 100 Feet
Elevations in Feet above Sea Level

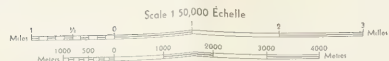
Transverse Mercator Projection

LEGEND

Industrial Areas
Zones industrielles



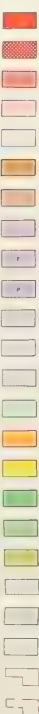
SOOKE BRITISH COLUMBIA



Équidistance des courbes, 100 m
Altitude en pieds au-dessus du niveau de la mer
Projection: Transverse Mercator, P. NAD 83

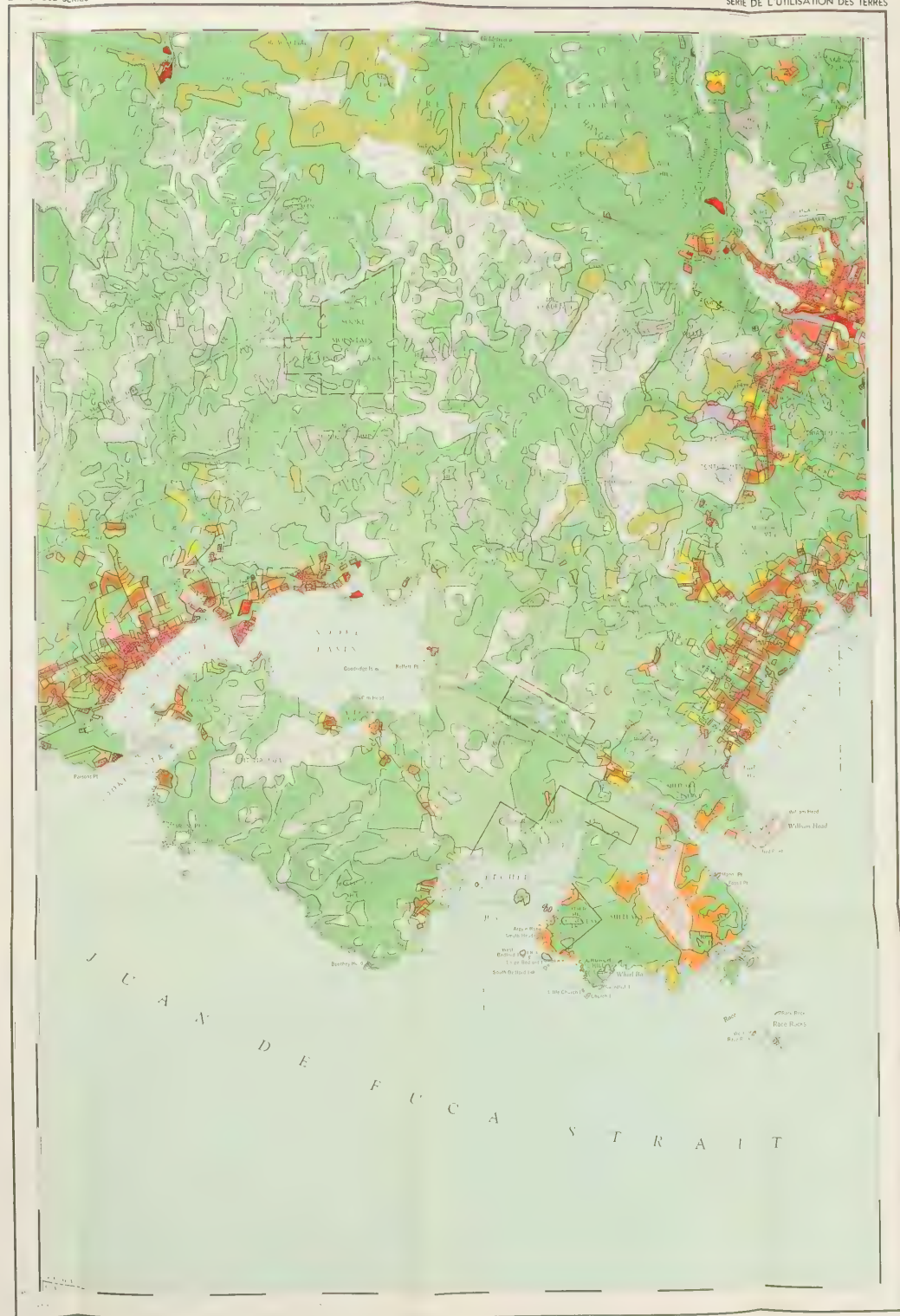
LEGEND — LÉGENDE

- Industrial Areas
Zones industrielles
- Commercial Areas
Zones commerciales
- Residential Areas
Zones d'habitation
- Recreational Areas
Parcs et terrains de jeu
- Associated Urban (non agricultural) Areas
Zones urbaines associées (non agricoles)
- Roads
Routes
- Gravel
Craie
- Horticulture
Exploitations horticoles
- Fur Farms
Fermes d'enneau à fourrure
- Poultry Farms
Fermes avicoles
- Vineyards
Vignobles
- Orchards
Verger
- Small Fruits
Petits fruits
- Improved Pasture
Pâturage amélioré
- Open Grassland
Prairie découverte
- Scrub Grass and
Prairie à brousse
- Open Woodland
Terre boisée, clair
- Scrub Woodland
Terre boisée, clair
- Cultivar or Burnt-over Areas
Terre boisée ou brûlée
- Unproductive Land
Terre improductive
- Swamps and Marshes
Marécages et tourbières
- Indian Reserves
Réserves indiennes
- Farms
Fermes



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Consulté par le Service topographique du Canada
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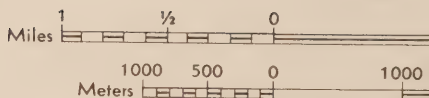
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GEOGRAPHICAL BRANCH
DEPARTMENT OF MINES AND TECHNICAL SURVEY

S O
BRITIS

Scale 1



Contour Interval 100 Feet
Elevations in Feet above Sea Level

Transverse Mercator Projection

LEGEND

Industrial Areas

CANADA

GEOGRAPHICAL BRANCH
DEPARTMENT OF MINES AND TECHNICAL SURVEYSDIRECTION DE LA GÉOGRAPHIE
MINISTÈRE DES MINES ET DES RELEVÉS TECHNIQUESSHAWNIGAN
BRITISH COLUMBIA

Contour Interval 100 Feet
Échelle de la carte 1:50,000

Échelle des courbes 100 pieds
Altitude en pieds au-dessus du niveau de la mer

Transverse Mercator Projection

Projection transverse de Mercator

LEGEND

LÉGENDE

Industrial Areas Zones industrielles	
Commercial Areas Zones commerciales	
Residential Areas Zones d'habitation	
Recreational Areas Parcs et terrains de jeux	
Associated Urban (non-agricultural) Areas Zones urbaines associées (non agricoles)	
Hay Foin	
Grain Céréales	
Horticulture Exploitation horticoles	
For Farms Terres d'élevage à fourrage	
Poultry Farms Fermes avicoles	
Vineyards Vignobles	
Orchards Vergers	
Small Fruits Petits fruits	
Improved Pasture Pâturage amélioré	
Open Grassland Prairie découverte	
Scrub Grassland Prairie à brousses	
Domestic Woodland Terres boisées, terres	
Open Woodland Terres boisées, clairs	
Scrub Woodland Terres broussaillées	
Cut-over or Burnt-over Areas Terres déboisées ou brûlées	
Unproductive Land Terres improductives	
Swamps and Marshes Marécages et tourbières	
Indian Reserves Réserves indiennes	
Parks Parcs	

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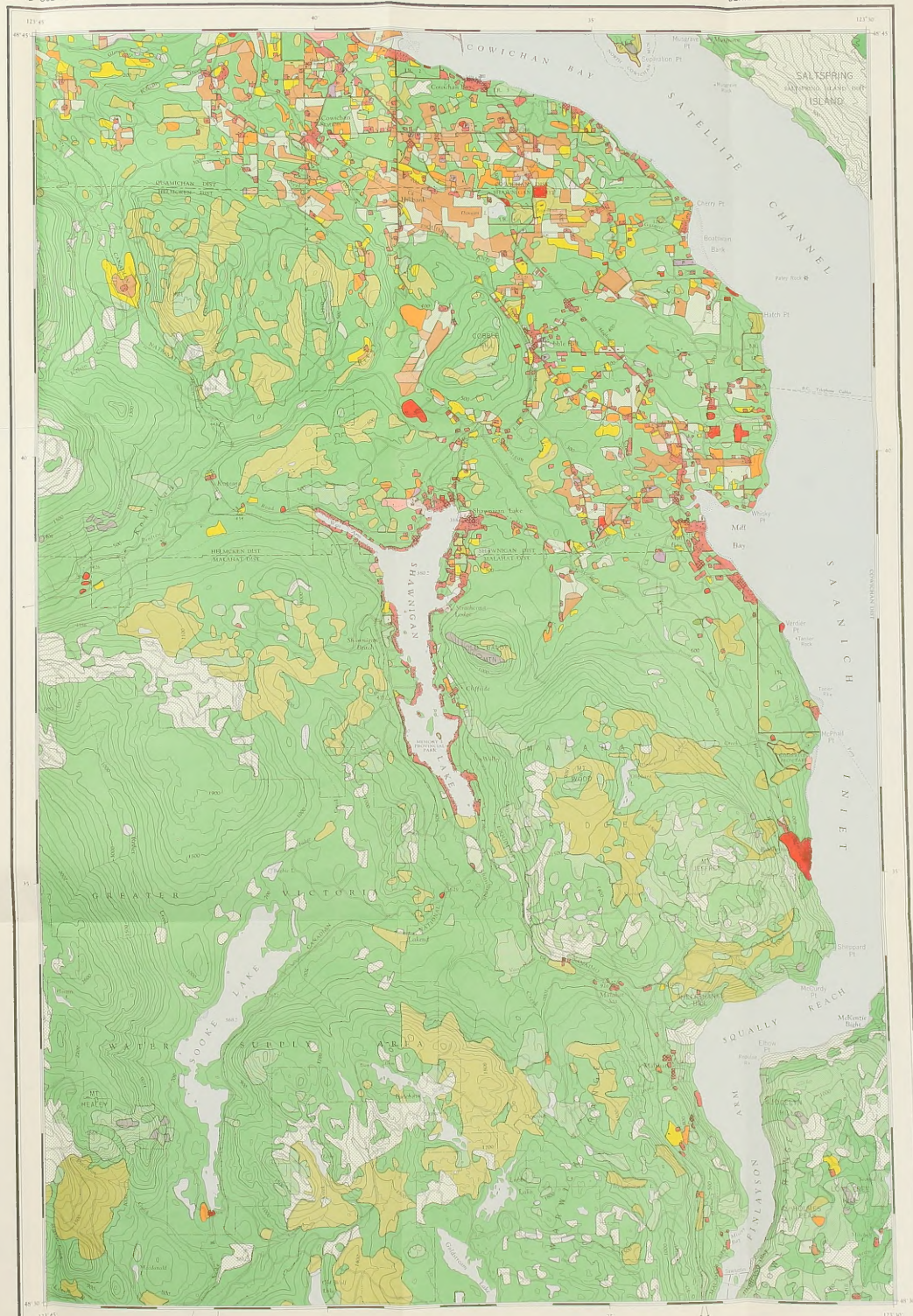
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LAND USE SERIES

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